



Maryland

Department of
the Environment

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Maryland Department of the Environment Water and Science Administration

Basis for Final Determination to Modify Frederick County's National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit

DISCHARGE PERMIT NO. 11-DP-3321
NPDES NO. MD0068357

Effective Date: December 30, 2014
Modified Date: November 8, 2019
Expiration Date: December 29, 2019

Introduction

The Maryland Department of the Environment (the Department) made a tentative determination on July 5, 2019 to modify the National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system permit (“stormwater permit” or “MS4 permit”) issued to Frederick County (the County). The stormwater permit that was originally issued on December 30, 2014 established specific conditions for regulating discharges from Frederick County’s storm drain system. Public notice of the Department’s tentative determination appeared in the Maryland Register on July 5, 2019 and July 19, 2019 as required by Maryland’s Administrative Procedures Act (APA). Additionally, the Department maintains an interested parties list that includes federal, State, and local municipal officials as well as numerous citizens of Frederick County and Maryland that were notified of the tentative determination.

In addition to the notification of tentative determination, the Department conducted a public hearing regarding the proposed modifications to the County’s permit. The hearing to accept testimony and comment regarding the modifications was held on July 29, 2019. One individual representing The Maryland League of Conservation Voters testified at the hearing and an official transcript of the proceedings furnished by Deposition Services, Inc. is available on the Department’s website.

After the hearing, the public record regarding the modifications to Frederick County’s stormwater permit remained open until October 3, 2019 to accept further comment in accordance with the APA. In aggregate, the comments received during the public hearing offered various perspectives on the major tenets of water quality trading and with respect to Frederick County’s stormwater permit. The issues receiving the most comments included procedures for water quality trading, how trading affects the existing impervious surface restoration requirement, and how trading will affect future permit requirements. Each of these issues will be addressed below as part of the Department’s Basis for Final Determination.

Background

When the Chesapeake Bay Total Maximum Daily Load (TMDL) was published in December 2010, each state in the Chesapeake Bay watershed was required to develop a Watershed Implementation Plan (WIP) for how they would achieve the pollution load reductions required by the TMDL. Maryland’s WIP established a State framework for meeting the water quality goals for the Chesapeake Bay by 2025. Much of the urban stormwater goals were to be implemented through NPDES MS4 permits. Specifically, the Department’s NPDES MS4 permits address stormwater concerns related to local and Chesapeake Bay TMDLs via a 20 percent restoration requirement for impervious surfaces that have no treatment.

Frederick County’s NPDES MS4 Phase I permit that requires the 20 percent impervious surface restoration was issued on December 30, 2014. In a June 20, 2019 correspondence from Frederick County, requesting an MS4 permit modification, the County stated that it would be able to complete the restoration of 1,130 impervious acres by the end of its permit term on

December 30, 2019. This is equal to 89% of the County's restoration requirement of 1,270 impervious acres.

Restoration control practices implemented by the County include traditional methods (e.g., ponds, filters, wetlands) and alternative methods (e.g., street sweeping, tree planting, stream restoration) based on the Department's "Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits" (MDE, August 2014), also known as the MS4 Accounting Guidance.

1. Water Quality Trading Program Regulations

Multiple comments received by the Department were directly related to the recently adopted Water Quality Trading Program regulations, Code of Maryland Regulations (COMAR) 26.08.11, which became effective on July 16, 2018. These regulations were originally published in the Maryland Register, 44:25 Md. R. 1189-1195, on December 7, 2017, and republished with no substantive changes, 45:14 Md. R. 698-702, on July 6, 2018. Comments regarding Maryland's Water Quality Trading Program that have been addressed through prior regulation adoption and citizen participation opportunities found in State Government Article (SG) Annotated Code of Maryland, Title 10, Subtitle 1, and 7-213 include:

A. Local Water Quality Provisions

Comment: It must be made clear that credits must only be applied in close proximity to where they're generated; otherwise we are sacrificing local water quality and quality of life.

Department Response: Water quality trading regulations in COMAR 26.08.11.08 stipulate how local water quality is addressed and limitations on where the credits can be generated.

B. Ability of trading to meet compliance deadlines.

Comment: The permit modification process should include an analysis of reasonable assurance that incorporating trading into these permits will help permittees meet compliance deadlines.

Department response: The Permit Modification Fact Sheet notes that nutrient load reductions achieved through the trading program shall be replaced by stormwater practices during the next permit term. Permittees shall continue to pursue current restoration efforts and track progress in annual reports as specified in the permit modification. The Fact Sheet provides information on how trading under the current permit will affect requirements in future permits. More specifically, nutrient trading to meet the MS4 permit's 20 percent impervious surface restoration (ISR) requirement shall be continued annually until a new permit is issued to Frederick County. The trading regulations (see COMAR 26.08.11.08) specify that if there is a default in a trade contract, expiration of a credit, or suspension or revocation of a credit, the buyer (e.g., Frederick County) using the credit remains responsible for complying with the permit. In any of these events, the permit modification requires Frederick County to inform the Department annually of how it is maintaining compliance with the restoration requirement of the permit. As credits are

replaced by restoration practices, additional water quality benefits are realized beyond the specific pollutants that were traded.

C. Lack of available credits

Comment: The lack of available credits raises concerns about whether simply allowing trading is the appropriate way to ensure compliance with MS4 permits in general, and Frederick MS4 permit in particular.

Department Response: The credit market will determine from what sources any MS4 permit holder will find available credits to purchase, MDE makes no precondition as to the means and methods of credit sourcing and acquisition by any jurisdiction. If credits are not available, jurisdictions will need to take whatever measures are necessary to ensure compliance with the permit conditions.

D. Direction on Credit Purchases

Comment: One commenter strongly recommended that the permit modification specifically identify the number of pollutant credits that are needed for each acre of impervious surface restoration.

Department Response: PART IV.E.3 of the MS4 permit (Nutrient Trading) specifies that “[T]he basis for an equivalent impervious acre restored through trading is the difference in pollutant loads between urban and forest stormwater runoff according to [the Accounting Guidance].” Appendix D of the Accounting Guidance explains the nutrient conversion process and provides example calculations to determine impervious acres treated based on given pollutant load reductions. Specifically, Tables D.1 and D.6 provide the level of nutrient load reductions per acre of nutrient trading credit. Therefore, this information is already available and is incorporated by reference into the modified portion of the permit.

E. Lack of Clarity on Post-Purchase Credit Obligations

Comment: It is recommended that language be included in the permit modification itself that formalizes the expectation that credits must be maintained until converted into stormwater practices, and that the conversion must happen in the next permit term.

Department Response: The Permit Modification Fact Sheet notes that nutrient load reductions achieved through the trading program shall be replaced by stormwater practices during the next permit term. Permittees shall continue to pursue current restoration efforts and track progress in annual reports as specified in the permit modification. The Fact Sheet provides information on how trading under the current permit will affect requirements in future permits. More specifically, nutrient trading to meet the MS4 permit’s 20 percent impervious surface restoration (ISR) requirement shall be continued annually until a new permit is issued to Frederick County. The trading regulations (see COMAR 26.08.11.08) specify that if there is a default in a trade contract, expiration of a credit, or suspension or revocation of a credit, the buyer (e.g., Frederick County) using the credit remains responsible for complying with the permit. In any of these

events, the permit modification requires Frederick County to inform the Department annually of how it is maintaining compliance with the restoration requirement of the permit. As credits are replaced by restoration practices, additional water quality benefits are realized beyond the specific pollutants that were traded.

F. Best Management Practice (BMP) Certification, Verification, and Registration

Comment: The amount of the pollutant reduction must be quantifiable, durable, verifiable, and enforceable.

Department Response: Water quality trading regulations in COMAR 26.08.11.11 - 14 ensure that nutrient credits are certifiable, verifiable, publicly registered, enforceable, and open to an appeal process.

2. Timing/Necessity of the Proposed Modifications

Numerous comments received by the Department questioned the timing of the proposed modifications. There were also questions asking why trading is necessary or should be allowed. Specific comments regarding the timing and practicality of the proposed modification include:

A. Uncertainty of County MS4 Programs and Continued Restoration Implementation

Comment: If trading is allowed, will the [County] maintain commitments to planned projects?

Department Response: The Permit Modification Fact Sheet notes that nutrient load reductions achieved through the trading program shall be replaced by stormwater practices during the next permit term. Permittees shall continue to pursue current restoration efforts and track progress in annual reports as specified in the permit modification.

B. Compliance Period

Comment: What is the effect of an administratively continued permit in the trading modification scheme?

Department Response: Federal regulations specify that expired NPDES permits remain in effect until a new permit is issued. The modification specifies that the permittee shall report BMP implementation, trading credits, and required documentation to the Department on an annual basis until re-issuance of the permit.

3. Future Permits, Modifications, and Legal Action Related To Permit Compliance

A. Extended Compliance and Additional ISR Requirements

Comment(s): Several comments received by the Department were related to compliance with the current permit and/or the transition to the next permit. More specifically, there were requests for additional ISR requirements in the next permit and questions on whether the ISR compliance

could be extended into the next permit. There were also questions on the process if the permittees are not in compliance with the ISR requirement after utilizing trading provisions. Finally, the Department was asked if there are other Phase I NPDES MS4 permits that will be modified.

Department Response: As noted above, the Fact Sheet provides information on how trading under the current permit will affect requirements in future permits. More specifically, nutrient trading to meet the MS4 permit's 20 percent ISR requirement shall be continued annually until a new permit is issued to Frederick County. The trading regulations (see COMAR 26.08.11.08) specify that if there is a default in a trade contract, expiration of a credit, or suspension or revocation of a credit, the buyer (e.g., the County) using the credit remains responsible for complying with the permit. In any of these events, the permit modification requires the County to inform the Department annually of how it is maintaining compliance with the restoration requirement of the permit.

With respect to the new permit, the Department will notify and engage stakeholders in the process when it is drafted. There will be further opportunity for public comment and participation on this matter in future permits. This applies to any other NPDES permit modification and compliance actions taken by the Department under the terms of this permit.

B. Transparency and Nutrient Credit Calculations

Comment: Concern was expressed that there should be more transparency as to how nutrient credits are calculated.

Department Response: PART IV.E.3 of the permit (Nutrient Trading) specifies that "[T]he basis for an equivalent impervious acre restored through trading is the difference in pollutant loads between urban and forest stormwater runoff according to [the Accounting Guidance]." Appendix D of the Accounting Guidance explains the nutrient conversion process and provides example calculations to determine impervious acres treated based on given pollutant load reductions. Specifically, Tables D.1 and D.6 provide the level of nutrient load reductions per acre of nutrient trading credit. Therefore, this information is already available and is incorporated by reference into the modified portion of the permit.

C. Specificity on Nutrient Amounts

Comment(s): There were several comments that recommended specific changes to address the need for transparency. These changes included adding specific amounts (e.g., pounds per acre) of nitrogen, phosphorus, and sediment in the permit and/or identifying a "pound-to-acre" conversion factor to be used in determining compliance.

Department Response: With respect to including specific amounts of each nutrient in the permit, the County is currently working to meet the ISR requirement using practices identified in its annual reports and FAPs. The results of these efforts will be reported in the upcoming annual report(s). Until then, the Department cannot determine how much nutrient trading each

jurisdiction will need to comply with the current permit. Because of this uncertainty, it would be inappropriate for the Department to assign specific amounts within the permit.

D. Nutrient Trading is a “Free” Credit

Comment(s): Concern was expressed that nutrient trading was a “free pass” for meeting the ISR requirements within the current permit, especially for those jurisdictions that have reduced or eliminated stormwater fees, or to take credit for WWTP performance upgrades that have been funded by the State, resulting in zero new investment by counties.

Department Response: Nutrient trading is not a “free pass.” The County currently contributes to the operation and upgrades of wastewater treatment plants within its jurisdiction or that are shared. Additionally, performance criteria are stipulated in COMAR 26.08.11.03 to ensure that additional pollutant reduction credits are generated. With respect to local stormwater fees, these are not required as long as each jurisdiction demonstrates a fiscal capability to address permit requirements. This capability is assessed through each jurisdiction’s FAP.

E. Use of the impervious surface restoration metric for achieving nutrient reductions

Comment: One commenter expressed “great concern about how any permittee can achieve the ultimate goal of nutrient and sediment pollution reduction for Chesapeake Bay and local waters if the current permit impervious surface restoration goals are being missed.” Additionally, Frederick County stated that it is awaiting a legal decision that could impact the County’s restoration obligations and “shape... MS4 permits in the future.”

Department Response: The Department has determined that compliance with the 20 percent impervious area restoration requirement in the permit constitutes adequate progress toward compliance with Maryland’s receiving water quality standards and United States Environmental Protection Agency (EPA) approved stormwater wasteload allocations (WLAs) for the Chesapeake Bay and local TMDLs. Furthermore, the Maryland State Court of Appeals in *MDE et al. v. Anacostia et al.* affirmed the 20 percent restoration requirement as a “well developed and vetted strategy.” This metric will continue to be used during the current permit cycle as a metric for Frederick County’s efforts to achieve its pollutant reduction goals.

Conclusion

Frederick County's permit represents a major step forward in meeting the water quality objectives of the Clean Water Act (CWA). Requirements in the permit include restoring 20 percent of the County's impervious area (i.e., the ISR requirement), and developing restoration plans to meet stormwater wasteload allocations (WLAs) to address Chesapeake Bay and local water quality impacts. With respect to the ISR requirement, the County has documented that capital and operational funds necessary to meet this requirement are available. However, the physical capacity for implementing BMPs within the five-year permit timeframe has limited implementation.

In July 2018, Maryland adopted a program that allows MS4 permittees to use nutrient credit trading. Because this option was not available at the time of issuance, the existing permit must be modified to allow nutrient credit trading as an option for meeting ISR goals within the framework of the permit. Therefore, the Department has reached a final determination to modify Frederick County's MS4 permit to use Maryland's newly authorized nutrient trading program as an option to meet its 20 percent ISR requirement.

Appendix A – Comments Received

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
<p>Chesapeake Bay Foundation</p> <p>(written comments)</p>	<p>“The lack of available credits raises concerns about whether simply allowing trading is the appropriate way to ensure compliance with MS4 permits in general, and the Frederick MS4 permit in particular. Frederick County notes in the 2018 Annual Report and Restoration Plan that the lack of wastewater credits may require “ramp-ups to existing programs, or other solutions.”⁴ During the first three and a half years of the current MS4 permit, Frederick County had accomplished 365.5 acres out of the 1,270 acre restoration requirement.⁵ While there has been some expectation that early progress may be slow as programs ramp up, it has been clear that the pace of implementation has been far too slow to realistically achieve compliance by the end of the five year permit term. The solutions the County is now considering regarding ramping up programs and implementing alternative BMPs which, along with a ramped-up County financing mechanism, should have been required by MDE long before the permit was nearly expired. In addition to simply allowing water quality trading, CBF recommends that the Department take more proactive steps in identifying progress delays and implementing schedules of compliance with alternative practices to make up for those delays – delays that, as noted above, are not likely to be satisfied any time soon by trading.”¹</p>	<p>§1, p. 2</p>
	<p>“CBF recommends that the permit modification process should include an analysis of reasonable assurance that incorporating trading in these permits can, in fact, help permittees meet compliance deadlines. This could include identification of anticipated, available credit purchases. If sufficient credits are not available, then the permittee should also update restoration plans to identify and include supplemental stormwater practices that can be implemented in a shorter timeframe, such as tree planting or more extensive, additional green infrastructure installation that would allow the permittee to come into compliance by the end of the permit term.”¹</p>	<p>§1, p. 2</p>
	<p>“The proposed modification language incorporates MDE’s “Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits” (Guidance Manual) as the basis for required credit purchases. ... CBF strongly recommends clarifying which baseline impervious load should be used for the urban loading rate, and also specifying that this applies to nitrogen, phosphorus, and sediment. ... For the sake of public transparency and ease of tracking pounds of credits needed against pounds of credits purchased from the trading registry, CBF strongly recommends that the permit modification specifically</p>	<p>§2, p. 4-5</p>

Appendix A – Comments Received

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
Chesapeake Bay Foundation (cont.)	identify the number of nitrogen, phosphorus, and sediment credits needed for each acre of impervious surface restoration. Since the purpose of the impervious surface restoration requirement is to address runoff from impervious areas, the appropriate loading rate would be from an urban impervious acre to forest. Under Model version 5.3.0, which was in effect when the current permits were issued, the delta between urban impervious and forest is 7.68 pounds per acre per year for nitrogen, 1.91 pounds per acre per year for phosphorus, and 0.43 tons per acre per year for sediment. These values should be listed directly in the permit modification with a clear directive that permittees much purchase these values for each acre of impervious surface restoration that is being replaced with credit purchases.” ¹	
	“[I]t should be made clear in the permit modification language itself what the strategy is for the “trading in time” approach. ... CBF recommends the inclusion of language in the permit modification itself that formalizes the expectation that credits must be maintained until converted into stormwater practices, and that the conversion must happen in the next permit term. ... The permit modification language should also make it clear that those purchased credits will be required to be maintained annually until the conversion is done.” ¹	§2, p. 4
	“CBF is concerned about the proposed permit modification’s lack of compliance with COMAR 26.08.11.08(E), which requires credits used within any impaired water to be generated within the impaired watershed ... CBF is concerned that applying the water quality trading regulations to MS4 permits without further specifying how the credits must be purchased in regard to impaired local waters will worsen local water quality hotspots... CBF recommends including specific geographic locations that align with local water quality impairments in which credits must be generated in order to be purchased for MS4 compliance.” ¹	§1, p. 2
	“Allowing unlimited credit purchasing instead of local restoration will endanger local water quality and delay progress towards attainment of local TMDLs. Furthermore, setting the expectation that all unmet permit obligations may be met through trading will exacerbate the delay and disruptions in program implementation. Therefore, CBF recommends setting a clear limit on the ability to purchase credits in lieu of restoration obligations, and also setting clear expectations that the ability to trade will also be limited in the near future.” ¹	§1, p. 2
	¹ Email from Ms. Alison Prost, CBF, to Raymond Bahr, MDE, 9/23/2019	

Appendix A – Comments Received

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
Maryland League of Conservation Voters (oral & written comments)	“MDE must not modify permits just to avoid enforcement on noncompliant counties. Because this permit is about to expire, it is inappropriate for MDE to modify the permit to include nutrient trading ... Trading should never be used as a paper exercise to give a county a free pass for walking away from commitments to water quality. Maryland LCV is very concerned that introducing nutrient trading at the end of the permit weakens this permit, sets a dangerous precedent for other counties, and rewards non-compliance both in the present and into the future as well as damages the validity of a trading market.” ²	§1, p. 2-3
	“Nutrient trading should only be used to fund new projects that would not have taken place otherwise.” ²	§1, p. 2-3
	“[W]e remain very concerned about hotspots of pollution and trading causing potential environmental justice issues where underserved communities suffer the brunt of the environmental pollution.” ²	§1, p. 2
	“If trading is allowed in this permit, it must at least include limitations [sic] so that a county addresses these concerns and knows that these credits must be replaced with real projects in the next permit term.” ²	§2, p. 4
	“The county must provide more information about how the credits are actually calculated [sic] and post the uses clearly online. It also must show clearly how these trades will navigate the Maryland Nutrient Trading Tool online which MDE has pointed to as a main driver of transparency and compliance in the trading system.” ²	§1, p. 4
	“If nitrogen credits are coming from WWTP, where are sediment and phosphorous credits going to come from?” ²	§1, p. 3
Audubon Naturalist Society (written and oral comments)	² Email from Mr. Ben Alexandro, MDLCV, to Raymond Bahr, MDE, 10/3/19	
	“There is great concern about how any permittee can achieve the ultimate goal of nutrient and sediment pollution reduction for Chesapeake Bay and local waters if the current permit impervious surface restoration goals are being missed.” ³	§3, p. 6
	“We understand and appreciate the statement on page 5 of the [Permit Modification] Fact Sheet, last bullet, that is that “It is generally understood” that the use of nutrient trading in the last year of a permit term must be “replaced by stormwater management practice and alternatives during the next permit term.” The trouble is that this statement cannot be taken alone, given that it appears in the Fact Sheet but is not anchored in the permit itself. To assure that this statement is legally binding and enforceable, we strongly urge that there be precise language in the new permit for all permittees which have used nutrient trading to achieve ISR credit which states that each such credit is replaced by	§2, p. 4

Appendix A – Comments Received

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
Audubon Naturalist Society (cont.)	<p>actual in-ground impervious surface restoration.”³</p> <p>“With respect to TMDL pollutant load reductions, the Frederick County 2018 annual report (AR), at p. 60, table 11, sets forth information on local TMDL. The data indicates that of the nine pollutant loads pertaining to seven watersheds, only three achieved load reductions near or above 50% of calibrated baseline loads. The target reductions are to be achieved by the end of the permit term, December 30, 2019.</p> <p>There is little question that these are not the nutrient load reductions needed by Frederick County and gives rise to the question of whether the reductions for 2025 will be met even if the total ISR acres are achieved. If MDE finds that Frederick County may invoke nutrient trading to meet the ISR acres for 2019, the County will be even further behind for the 2025 finish line and beyond for nutrient reduction.”³</p> <p>“The larger issue raised by the Frederick County permit implementation experience and raised as well by all the Maryland Phase I permittees is whether the ISR metric is still useful for achieving TMDL nutrient reduction goals. In this respect, we urge MDE to review carefully this issue as it begins preparation of the new permit for the next five years. We have joined in presenting to MDE ideas for a metric relating to actual pollutant reductions being achieved: an outcome-based goal measuring overall nutrient and sediment reduction which could also contain some level of ISR and paired with a substantial (i.e. 40%) green infrastructure implementation requirement. We would be pleased to join MDE and any other stakeholders in examining this alternative.”³</p> <p>³Written comments from Bruce A. Gilmore received 10/2/2019</p>	§3, p. 6
Frederick County (oral comments)	<p>“I have one comment that I wanted to make on the, on the trades themselves. And that’s not something that’s going to get written in the permit but has to do with delivery ratios from the generation of the obligation versus the generation of credits. We just want to make sure that they’re used – that same basis is used for both. Because the way that it’s currently written in the accounting for stormwater manual and also in the trading guidance is inconsistent and would, would not use the same delivery ratios for generating your liability for the credit versus the actual credit from a practice. So, we want that to be one to one for what we’re using them for.”⁴</p> <p>⁴Comments provided at public hearing, 7/29/2019</p>	§2, p. 4

